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EDITORIAL

Preventing childhood overweight and obesity☆,☆☆

Prevenção do sobrepeso e da obesidade infantis

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Childhood obesity is widely recognized as a major public health problem of global significance.[1] In Latin America, the ever-rising rates of overweight and obesity observed over the past three decades have not spared children and adolescents. The most recent data estimate that between 42.4 and 51.8 million children and adolescents (0-18 years) are overweight or obese, representing 20-25% of the total population of children and adolescents in the region.[2] In children younger than 5 years, the estimated prevalence of overweight and obesity based on the WHO Child Growth Standards[3] was reported to be 6.9% (95% CI: 5.8-8.0%) in 2010.[4] In school-aged children, national combined prevalences of overweight and obesity reported in the last five years using the WHO growth reference[5] ranged from 18.9% in Colombia (both genders) to 36.9% in Mexican boys.[2] Although not available for the past five years, prevalences in Brazil (2009) and in Chile (1997) were almost as high as those found in 2012 in Mexico, suggesting that the magnitude of excess BMI in these two countries is similar to or even higher than in Mexico.[2]

Awareness of the high rates of overweight and obesity during childhood together with the range of health consequences associated with these conditions — from psychosocial consequences to adverse metabolic effects on blood pressure, cholesterol, triglycerides, and insulin resistance[6–8] — has prompted the development of a number of action plans and the establishment of global targets for the prevention of obesity in children and adolescents. Central to the Latin American region is the *Plan of action for the prevention of obesity in children and adolescents for 2014-2019*, which the Pan American Health Organization (PAHO) approved in June of 2014 at the 154th session of its Executive Committee.[9] The regional *Plan* focuses on transforming the current obesogenic environment into a healthy one that provides opportunities for consumption of nutritious foods and physical activity, and aligns itself with earlier international mandates emerging from the World Health Assembly, in particular the *WHO global strategy on diet, physical activity, and health*,[10] the *Political declaration of the high-level meeting of the general assembly on the prevention and control of non-communicable diseases*,[11] and the *WHO comprehensive implementation plan on maternal, infant, and young child nutrition*.[12]

All these plans of action emphasize the essential role of physical activity in the control of childhood obesity, thereby underscoring the relevance in this issue of the *Jornal de Pediatria* of the contribution of Farias et al.[13] reporting on the impact of programmed physical activity in reducing body fat in post-pubertal schoolchildren. The authors compared a control group of 191 students aged 15-17 years attending conventional physical education classes at school with a study group comprising 195 students of the same age who participated in daily programmed physical activity, including 30 minutes of aerobic activity (exercises for

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flexibility, muscular strength, jumping rope, walking, alternating running, continuous jumping, recreational games), 20 minutes of sports games (volleyball, soccer, handball) and 10 minutes of stretching. At the end of the school year, there was a significant decrease in fat mass and percentage of body fat in the study group compared to the control group.[13] The programmed physical activity implemented in the study group is consistent with international recommendations for the age group 5-17 years old.[14] A recent WHO guideline concluded that the scientific evidence available for this age group supports the overall conclusion that physical activity provides fundamental health benefits. The documented health benefits include increased physical fitness (both cardiorespiratory fitness and muscular strength), reduced body fat, enhanced bone health, favorable cardiovascular and metabolic health biomarkers, and reduced symptoms of anxiety and depression.[14] The specific recommendations from the guideline group are:

1 Children and young people aged 5-17 years old should accumulate at least 60 minutes of moderate- to vigorous-intensity physical activity daily;
2 Physical activity lasting longer than 60 minutes daily will provide additional health benefits;
3 Most daily physical activity should be aerobic. Vigorous-intensity activities should be incorporated, including those that strengthen muscle and bone, at least three times per week.

For children and adolescents 5 to 17 years old, physical activity includes play, games, sports, transportation, recreation, physical education, or planned exercise, in the context of family, school, and community activities. For inactive children and youth, a progressive increase in activity to eventually achieve the targets above is recommended. It is appropriate to start with small amounts of physical activity and gradually increase duration, frequency, and intensity over time.[14]

While school-based programs that promote planned physical activity such as that described by Farias et al.[13] play an important role, it is also essential to be aware that contemporary children establish a sedentary lifestyle at an early age.[15] The modern environment encourages inactivity at all levels and in all settings (e.g., work, school, transportation, home), and young children are not immune to this trend. As young children establish a sedentary lifestyle, they almost certainly predispose themselves to overweight and obesity. This is reflected in observed trends for these conditions in children aged 0-5 years. Worldwide, in the period 1990-2010, there was a relative increase of 21% (first decade) and 31% (second decade) in the prevalence of early childhood overweight and obesity, whereas the forecast for the relative increase in the present decade (2010-2020) is 36%.[4] About 50% of the countries with available national data show rising trends for overweight in pre-schoolers (50 out of 102 countries).[16] These data confirm the need to combine school-based approaches with effective interventions starting as early as infancy to reverse anticipated trends.

What does all this mean for Latin America? The available data for the region are eye-opening and cry out for urgent action. Rates of overweight and obesity in youths such as those reported for Brazil, Chile, and Mexico carry vast health and economic consequences.[2] As governments become more aware of the cost of overweight and obesity for individuals and society, policy options are being discussed and implemented locally and nationally in some Latin American countries.[2,9] The *Plan of action for the prevention of obesity in children and adolescents for 2014-2019*, which the PAHO approved in June 2014, provides countries with a useful framework for taking action at the highest levels to deal with this significant public health problem. The *Plan* draws attention to the vast, robust scientific and public health knowledge about the mechanisms involved in the current obesity epidemic and the public action required to control it; and promotes coordination between public institutions — primarily in the sectors of education, agriculture, finance, trade, transportation, and urban planning — to achieve national consensus and synergies to halt progression of the obesity epidemic among children.[9] It also establishes an integrated monitoring, evaluation, and accountability system for policies, programs, legislation, and interventions, which will make it possible to assess the impact of implementing the *Plan*. Assessing the impact of policies and programs is crucial to building evidence of cost-effective interventions for controlling the obesity epidemic.

In the light of circumstances, however, it is essential to consider the fact that most countries in Latin America face a double burden of nutritional deficits (mainly stunting and micronutrient deficiencies) and excess bodyweight.[17,18] Addressing the problem of childhood obesity in the region will have this added complexity, as many of the countries have not yet attuned their nutrition and food policies and programs — designed decades ago with a focus on the control of undernutrition — to their new epidemiological profiles. Contrary to the belief of some decision-makers, undernutrition and obesity are not unrelated problems requiring separate solutions. For example, undernutrition from conception to the end of the first 2 years of life is a risk factor for overweight and obesity, and non-communicable diseases.[19] The promotion of appropriate feeding practices for infants and young children will thus effectively prevent both undernutrition and excess bodyweight. In contrast, overweight children and adolescents are a high-risk group for iron deficiency[20] and other micronutrient deficiencies.[21] This ''nutrition paradox'', the coexistence of nutritional deficit and excess in individuals and populations, should be taken into consideration when Latin American governments design national strategies to control childhood obesity.

The rising trends in childhood overweight and obesity are largely the result of social and environmental forces that influence eating and physical activity behaviors but are not under the control of individual children. In the past 20 years, many countries have experienced important socioeconomic changes directly affecting family eating patterns and resulting in increasingly common obesogenic diets which are energy dense, nutrient poor, and high in sugar-sweetened beverages. At the same time, the amount of physical activity that children engage in has been reduced by increased automobile use and time spent watching television and playing sedentary games, and by decreased opportunities for physical activity on the way to school, at school, and during leisure time. Although individual approaches are needed for children who are already overweight or obese, the

international consensus is that prevention is the most realistic and cost-effective approach for controlling the problem of childhood obesity. The prevention of excess weight gain will require a broad public health policy perspective, with multisectoral measures involving many stakeholders, as the PAHO and the WHO have proposed.[9,10,12] This approach will require substantial political will and financial investment, but it will yield a richer dividend to society in the long term.

In addition to multisectoral approaches that focus on transforming the current obesogenic environment into one promoting healthy diets and physical activity, the early recognition of excessive weight gain relative to linear growth is essential. Routine assessment of all children using appropriate methods and equipment needs to become standard clinical practice from very early childhood. Recent studies show that the trend towards childhood obesity starts as early as 6 months of age,[22,23] and that the choice of growth standard is essential for identifying the onset of excess weight gain in both infants[23] and school-age children and adolescents.[24] Early intervention when an increase in weight-for-height or BMI percentiles has been observed should provide parents and caregivers with guidance and support to promote healthy eating habits and routine physical activity.

Conflicts of interest

The author declares no conflicts of interest.

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